

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (Currently Amended). A method for estimating the time-dispersion of a channel in a communications system, the channel comprising D subchannels, ~~wherein one computes comprising:~~

computing, from a received signal received over the channel in a receiver, a set of estimated Channel Transfer Factors (CTF's) $\hat{H}[v]$, where v ($0 \leq v < D$) is the subchannel number, ~~said method comprising a step of~~
calculating, for a predetermined strictly positive integer d , a correlation factor C_d representing the correlations, both in amplitude and in phase, between pairs $\hat{H}[v]$ and $\hat{H}[v+d]$ of said computed CTF estimates~~[.], and~~
estimating, in said receiver, the time-dispersion of said channel using the calculated correlation factor C_d .

2 (Currently Amended). A time-dispersion estimation method according to Claim 1, ~~characterized in that~~ wherein a normalized expression for said correlation factor C_d is:

$$C_d \equiv \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(\left| \hat{H}[v] \right|^2 + \left| \hat{H}[v+d] \right|^2 \right)},$$

where the sums over v are carried over available pairs of said computed CTF estimates.

3 (Currently Amended). A time-dispersion estimation method according to Claim 1, ~~characterized in that~~ wherein a normalized expression for said correlation factor C_d is:

$$C_d \equiv \left(1 + \frac{1}{\zeta_u}\right) \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(\left| \hat{H}[v] \right|^2 + \left| \hat{H}[v+d] \right|^2 \right)},$$

where ζ_u is the mean channel estimation signal-to-noise ratio, and the sums over v are carried over available pairs of said computed CTF estimates.

4 (Currently Amended). A time-dispersion estimation method according to claim 1, ~~characterized in that it further comprises~~ further comprising a step of looking-up in a pre-constructed mapping table a value of channel excess delay τ corresponding to the value of said correlation factor C_d .

5 (Currently Amended). A time-dispersion estimation method according to claim 1, ~~characterized in that it further comprises~~ further comprising a step of adapting some link parameters as a function of the value of said correlation factor C_d .

6 (Currently Amended). A device (100) ~~for estimating the time-dispersion of a channel comprising D subchannels~~ for executing the method of claim 1, said device ~~receiving as~~ comprising:

an input ~~[[a]]~~ configured to receive the set of estimated Channel Transfer Factors (CTF's) $\hat{H}[v]$, where v ($0 \leq v < D$) is the subchannel number, computed from ~~[[a]]~~ the received signal, characterized in that it comprises and a correlations unit (102) ~~capable of computing~~ configured to compute ~~[[a]]~~ the correlation factor C_d , where d is a predetermined strictly positive integer ~~[[,]]~~ representing the correlations, both in amplitude and in phase, between ~~pairs $\hat{H}[v]$ and $\hat{H}[v+d]$ of said computed CTF estimates.~~

7 (Currently Amended). A time-dispersion estimation device according to Claim 6, ~~characterized in that it also comprises~~ further comprising a parallel-to-serial unit (101) capable, when provided with a CTF vector $\hat{\mathbf{H}}$ as an input, of providing said correlations unit (102) with a series of individual CTF's $\hat{H}[v]$ classified by successive subchannel number v .

8 (Currently Amended). A time-dispersion estimation device according to Claim 6, ~~characterized in that~~ wherein a normalized expression for said correlation factor C_d is:

$$C_d \equiv \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(\left| \hat{H}[v] \right|^2 + \left| \hat{H}[v+d] \right|^2 \right)},$$

where the sums over v are carried over available pairs of said computed CTF estimates.

9 (Currently Amended). A time-dispersion estimation device according to Claim 6, ~~characterized in that~~ wherein a normalized expression for said correlation factor C_d is:

$$C_d \equiv \left(1 + \frac{1}{\zeta_u}\right) \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(\left| \hat{H}[v] \right|^2 + \left| \hat{H}[v+d] \right|^2 \right)},$$

where ζ_u is the mean channel estimation signal-to-noise ratio, and the sums over v are carried over available pairs of said computed CTF estimates.

10 (Currently Amended). A time-dispersion estimation device according to claim 6, ~~characterized in that it also comprises~~ further comprising a look-up table (103), capable of providing a value of channel excess delay τ corresponding to the value of C_d .

11 (Currently Amended). A time-dispersion estimation device according to claim 6, ~~characterized in that it also comprises~~ further comprising a link adapter responsive to the value of said correlation factor C_d .

12 (Currently Amended). A modulated-signal reception apparatus, ~~characterized in that it comprises~~ comprising a device according to claim 6.

13 (Currently Amended). A telecommunications network, ~~characterized in that it comprises~~ comprising at least one reception apparatus according to Claim 12.

14 (Currently Amended). A data storage ~~means~~ device, ~~characterized in that it contains~~ comprising a computer readable storage medium storing computer program code instructions for executing steps of ~~[[a]]the~~ the method according to claim 1.

15 (Currently Amended). A data storage means according to Claim 14, ~~characterized in that it~~ wherein the data storage device is partially or totally removable.

16 (Currently Amended). A computer program stored on a computer readable storage medium, ~~characterized in that it contains~~ comprising computer program code instructions such that, when said program ~~controls~~ is executed to control a programmable data processing device, said instructions ~~mean that~~ cause said data processing device ~~implements~~ to implement a method according to claim 1.

17 (Currently Amended). A time-dispersion estimation device according to claim 7, ~~characterized in that~~ wherein a normalized expression for said correlation for factor C_d .

$$C_d \equiv \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(\left| \hat{H}[v] \right|^2 + \left| \hat{H}[v+d] \right|^2 \right)},$$

where the sums over v are carried over available pairs of said computed CTF estimates.

18 (Currently Amended). A time-dispersion estimation device according to claim 7, ~~characterized in that~~ wherein a normalized expression for said correlation for factor C_d is:

$$C_d \equiv \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(\left| \hat{H}[v] \right|^2 + \left| \hat{H}[v+d] \right|^2 \right)},$$

where ζ_u is the mean channel estimation signal-to-noise ratio, and the sums over v are carried over available pairs of said computed CTF estimates.

19 (Currently Amended). A time-dispersion estimation device according to claim 7, ~~characterized in that it also comprises~~ further comprising a look-up table (103), capable of providing a value of channel excess delay τ corresponding to the value of C_d .

20 (Currently Amended). A time-dispersion estimation device according to claim 7, ~~characterized in that it also comprises~~ further comprising a link adapter responsive to the value of said correlation factor C_d .